

**PATTERNED POLYMER MICROGEL AND METHOD OF FORMING SAME****CROSS-REFERENCE TO RELATED APPLICATIONS**

This application claims the benefit of U.S. Provisional Patent Application
5 No. 60/398,392, filed July 25, 2002, and U.S. Provisional Patent Application
No. 60/441,658, filed January 22, 2003.

FIELD OF THE INVENTION

Polymeric gels, having micron or submicron dimensions, for adsorption of
10 proteins and adhesion of cells.

BACKGROUND OF THE INVENTION

Surface patterning at appropriate length scales is of significance to many
emerging application areas, particularly those involving proteins and cells. In addition to
15 well-established technologies based on photolithography, surface patterning has been
achieved by techniques such as soft lithography, microfluidic patterning, 3-D printing,
and dip-pen nanolithography, among other traditional and hybrid approaches.
Patterning using electron beams has been practiced for several decades and has the
advantage of enabling the generation of surface-patterned structures with arbitrary
20 shapes and feature sizes as small as a few tens of nanometers. In the context of
modifying surfaces for biorelevant applications, these properties are important because
the control of protein and cell behavior on synthetic surfaces requires control of surface
structure and chemistry at lengths ranging across both the nano-scale and micro-scale.